

Further according to the present invention, there is provided a method of forming a sealed container package which comprises providing a container having a container opening defined by a rim of the container;

5 providing a sealing sheet material across the container opening and removably securing the sealing sheet material to the container rim;

 forming a recessed portion in the sealing sheet material whereby at least after the sealing sheet material has been secured to the container rim the recessed portion projects into the container opening; and

10 attaching a reclosable lid to the container rim, the lid projecting into the recessed portion of the sealing sheet material within the container opening.

Also depending upon the material of the sealing sheet material, the recessed portion in the sealing sheet material may be cold-formed, for example by deep drawing, or
15 thermoformed. Thermoforming may be carried out with a vacuum or fluid pressure, but preferably a former is engaged with the sealing sheet material to form the recessed portion therein. The sealing sheet material, or part of it, may be heated before, at the same time as and/or after the former is engaged with the sealing sheet material.

20 The recessed portion in the sealing sheet material need be substantially no deeper than the recessed inner portion of the lid. The recessed portion of the sealing sheet material may be at least partly formed before the sealing sheet material is secured to the container rim; for example, it may be preformed, that is before the sealing sheet material is provided across the container opening. However, preferably the recessed portion of the sealing sheet
25 material is formed at the same time as and/or after the sealing sheet material is secured to the container rim.

Most preferably, the recessed portion of the sealing sheet material is formed after the sealing sheet material has been secured to the container rim, at least to the extent that the
30 sealing sheet material is not drawn across the container rim as the recessed portion is formed. This is especially advantageous in a forming station in which multiple lines of

The forming of the recess in the sheet 52 is illustrated schematically in Figure 6c. As will be appreciated from Figures 3 to 5 the recess must be of sufficient depth and cross-section to accommodate the lid 32. It is also to be noted that the container 12 is illustrated schematically in Figure 6, particularly in that the depending skirt 30 is omitted.

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As alternatives to the described processes, the plug 58 may be rigidly supported by the platten 54, in which case the annular sealing bar 56 should be advanceable and withdrawable relative to the platten. In such an arrangement, the sealing bar would be initially advanced relative to the plug 58 and would initially press the sheet 52 onto the
10 container rim 18 before the plug 58 engages the sheet 52. As the platten 54 is advanced further to form the recess in the sheet, the sealing bar must withdraw relative to the platten. Alternatively, in a similar arrangement, the sealing bar 56 may be fixed and the plug 58 relatively adjustable, but the plug 58 is withdrawn initially so that the sealing bar engages the sheet 52 first. These alternatives may be useful when the sheet 52 is at least
15 substantially pre-cut and not supported, or not adequately supported, at its periphery.

The final cutting, if necessary, of the thermoformed sheet 52 may be effected by the sealing bar 56, by separate means (not shown) at the sealing and thermoforming station 50 or at a separate station. Cutting of the sheet may be performed by any industry standard
20 such as a hot or cold steel rule knife or forged knife, or a punch and die assembly.

It will be understood that heating of the sheet 52 may be effected by other means than the sealing bar 56. In a variation the sheet 52 may be bonded to the container rim 18, and optionally cut, in one station, with the recess being formed in the sheet 52 in a separate
25 station.

A major advantage of the described sealing and thermoforming station is that it may be incorporated as part of a standard container filling-line process, that is filling, sealing and closing, up to 60 containers or more per minute, with other optional procedures being
30 included if desired. For example, if a modified atmosphere packaging process is called for, the ambient air in the head space above the contents in the container 12 may be at least